



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,815	08/26/2003	William F. Howard	WEAT/0313	4562
36735 7590 02/13/2007 PATTERSON & SHERIDAN, L.L.P. 3040 POST OAK BOULEVARD, SUITE 1500 HOUSTON, TX 77056			EXAMINER SMITH, MATTHEW J	
			ART UNIT	PAPER NUMBER
			3672	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/648,815

Applicant(s)

HOWARD ET AL.

Examiner

Matthew J. Smith

Art Unit

3672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10, 14, 16, 17, 27, 40-46, 48 and 50-55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 48 and 50-55 is/are allowed.
- 6) ☒ Claim(s) 10 and 16 is/are rejected.
- 7) ☒ Claim(s) 14, 17, 27 and 40-46 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The After Final amendment has been entered. The Final rejection has been withdrawn and new rejections presented.

Specification

The disclosure is objected to because of the following informalities: Paragraph [0028] is objected to since to vaporize steam to form a cooling zone appears inaccurate since steam, by definition, is vapor and its condensate provides cooling. Noting the inherent properties of steam, use of the terms "evolve" and "evolution" when describing steam does not clarify the cooling step.

Appropriate correction is required.

Claim Objections

Claims 10 and 40-46 are objected to because of the following informalities:

In claim 10:

the recitation, "wherein the ... cooling zone" is misleading and should be replaced with --said condensate vaporizes in the cooling zone and cools the well fluid in the bore at and adjacent the cooling zone (see [0015], lines 10-20 and [0029], lines 5-9);

the recitation, "that portion" should be change to --a portion--;

In claims 40, line 5 and claim 43:

the recitation, "vaporizing the additive material" should be changed to --vaporizing a condensate of the additive material--

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10 and 16, as best understood by the examiner, are rejected under 35 U.S.C. 103(a) as being unpatentable over Butler (5607016) in view of Ayasse et al. (6412557).

Butler discloses (col. 6, lines 56-67; col. 7, lines 1-3) dissolving a solvent in well fluids; vaporizing the solvent forming a cooling zone; cooling the well fluids with the solvent; positioning a pump 42 in a footed portion and having a smaller diameter than the pipe thus forming a gap (Fig. 3A); and bubbles passing through the gap but not steam.

Ayasse et al. present injecting gases to reduce viscosity (col. 3, lines 4-8) including steam or solvents.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to substitute steam for a solvent, as presented by Ayasse et

Art Unit: 3672

al., in order to raise the temperature of the hydrocarbon formation thereby reducing the viscosity to enhance production.

Allowable Subject Matter

Claims 48 and 50-55 are allowed.

Claims 40-46 are objected to, as noted above, but would be allowable if rewritten.

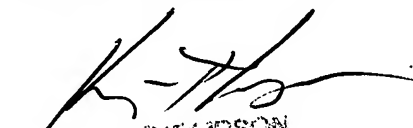
Claims 14, 17, and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Smith whose telephone number is 571-272-7034. The examiner can normally be reached on T-F; 8-3.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J. Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3672

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



KENNETH THOMPSON
PRIMARY EXAMINER
TECHNOLOGY CENTER 3600

David Bagnell
Supervisory Patent Examiner
Art Unit 3672

MJS *MJS*
9 February 2007